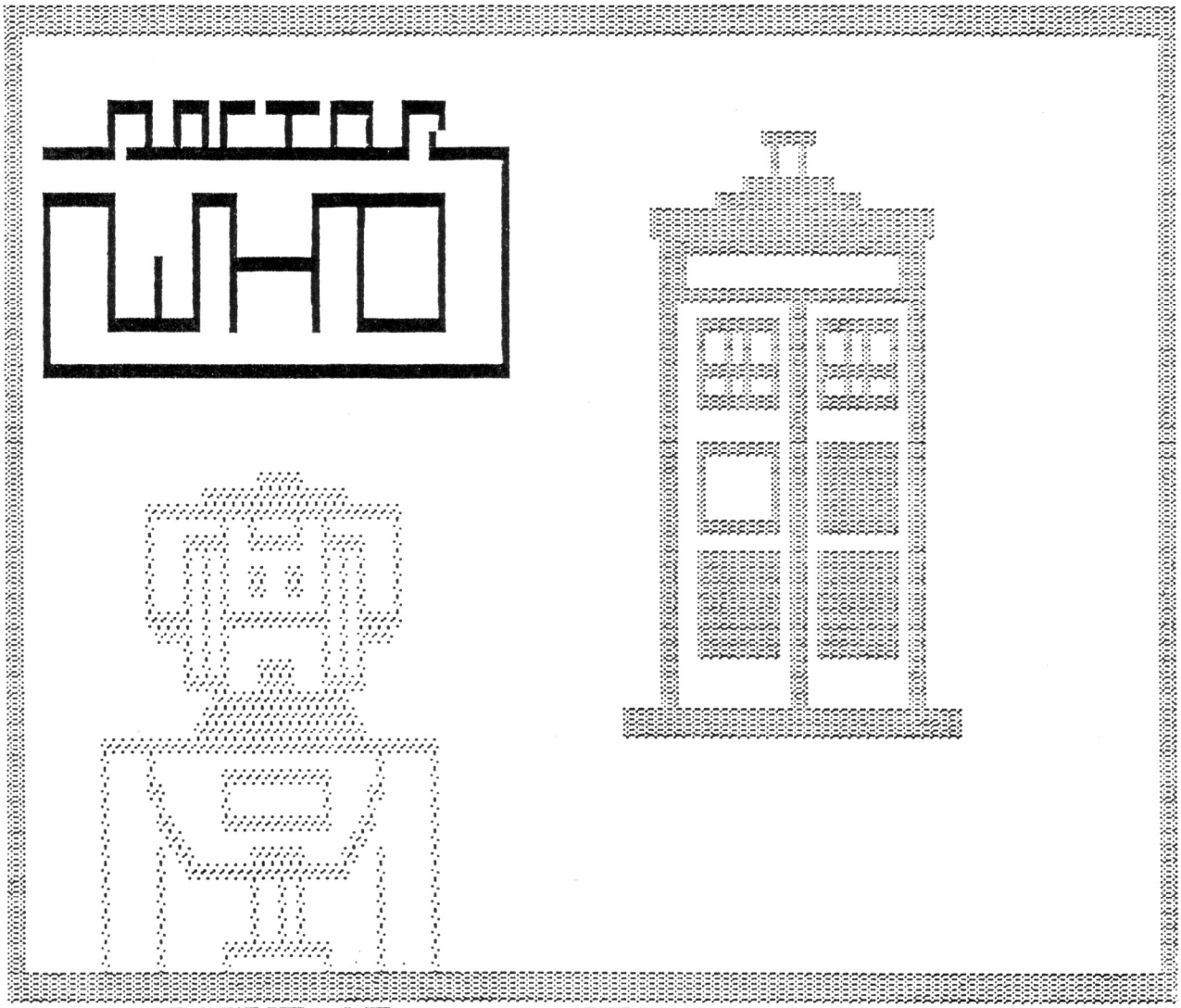
VZ LINK magazine

New Zealand VZ 300/200 Computer users club



ISSUE 47 SEPTEMBER 1990

FROM ME TO YOU

Well once again we have managed to put together a Jammed packed newsletter for your enjoyment and delight.
Last month we said farewell to Brooke Spong, from the VZ scene.
We wish Brooke all the best with his new computer.

We welcome Rob Lyons and family to the VZ users club. I hope you get as much use out of the newsletters as our other members.

Last month we also welcomed back Jack LLewellyn from his stint as a gentleman farmer up north. Jack has also shifted house since his return.

WORKSHOP

The workshop meeting last month went really well. We had as our extra special guest Bob Kitch, from Australia. It was also great to see so many members turn up and show their support for the VZ.
I noted a head count of 20 at one stage.

Bob gave us all a very informative talk on VZ computers in general. Bob told us all what can be done and what has been done to enhance the VZ.
He also gave us some insight into possible future programs etc.

To our delight Bob also brought along some NEW DOS EPROMS which sold like hot cakes. Unfortunely the same can not be said for the EXTENDED BASIC EPROMS, mainly because they did not have the Printer Patch burnt into them.

However Bob has promised these will be available, hopefully on his next visit. Copies of the information regarding these eproms is available from me if required.
I also have copies of Bobs latest lists of VZ Magazine articles.
I understand this will be the last time this list will be updated, due to the lack of VZ magazine articles appearing now. A full set of these articles would be great for our VZ library. When funds permit.
The cost of $100.00 is a large drain on club funds. Donations would be appreciated toward this purchase.

SEMI GRAPHICS

For some time both Ken Clarke and I have been very concerned about the way Semi Graphics (mode(0) graphics) are reproduced in the newsletter.
The problems are caused by the way the VZ and printer patch handle them.

If you have been having problems entering programs from the newsletters due to the semi graphics being wrong then please contact me for a new listing. The programs include Kong, Wankel and Fisherman.

NOTES AND ERRATA

The Sound effects item in issue 44 June 90 can be changed to make some interesting sounds. In the first program 'SOUND EFFECT try changing the For to loop in line 10. ie change to FORI=0TO11
In 'RAY GUN the last POKE in line 20 should be POKE-32763,20
Also try changing the For to loop in line 30 to read FORJ=1TO19 this will enable all the data to be read.

ISSUE 19 April 88
The POKEs to reboot DOS do not work. Try using
POKE30862,249:POKE30863,0: X=USR(0)

Well not much room for any more is there. See you next issue.

PRINT/LPRINT SWITCH BY R.QUINN

There is a single memory cell in the communications region of reserved RAM, with address 30876, which is used by your VZ as a PRINT/LPRINT switch. Your VZ is in PRINT (send data to the screen) mode when this cell contains a '0', and in LPRINT (send data to PRINTer) mode when it contains a '1' (or any non zero number between 1 and 127). '0' is the default byte for this cell, to which it will revert at the end of execution of a PRINT or LPRINT statement.

POKE30876,1:PRINT"TEST":PRINT"AGAIN?" will LPRINT the data of the first PRINT statement to your printer, even though you used the PRINT command. PRINT goes along with whatever mode is dictated by the POKE30876. The second PRINT statement sends its data to the screen. POKE 30876,0:LPRINT PEEK(30876) however, will not PRINT to your screen. LPRINT forces the switch to LPRINT mode. And of what use is all this? Well I have found two uses so far. Two VZ DOS (disk operating system) commands--DIR and STATUS--involve PRINTing certain disk data to the screen. Using the PRINT/LPRINT switch, we can use these commands to direct the disk data to your printer instead. With a disk in your drive and your printer switched on, enter the following sequence of direct commands: POKE30876,1:DIR:STATUS <RETURN>. So long as the two disk commands follow one another in this way, they are treated as a single LPRINT command.

The second use is available to all VZ users (not just those fortunate to have disk drive). I'll explain it with an example. I adapted a TRS-80 DISASSEMBLER program to run on the VZ. The program involves a loop with hundreds of conditional PRINT statements of which only a few are executed in each sweep through the loop. When I wanted an LPRINT version of the program so that I could record hardcopy of disassemblies, the only solution I could think of at the time was to make up a separate copy of the program in which all those conditional PRINT statements were changed to LPRINT statements. Which meant choosing which version to load depending on whether you wanted to PRINT or LPRINT. An awkward solution at best. I eventually devised a PRINT/LPRINT switch within the one version of the program using a routine similar to the COPY command. But a third solution arises, making use of the POKE 30876 switch. An INKEY$ switch would be used to choose between PRINT/LPRINT mode.

Line no. A$=INKEY$:IFA$="V"THENW=1ELSEIFA$="P"THENW=0. Then you only need place the following statement at a few strategic locations in the program--at the entrances to various blocks of conditional PRINT statements: POKE30876,W and on each sweep through the loop the program will PRINT or LPRINT the few PRINT statements which meet the current conditions according to the value of W. If you adapt this technique to one of your programs, remember that the POKE 30876,1 will remain in LPRINT mode only for the execution of one PRINT statement. With a little refining you can get a program to repeat each sweep through a loop so that it PRINTs the data to the screen on the first sweep, and LPRINTs the data to your printer on the second (repeat) sweep.

MICRO MAGIC

BEGINNER'S GUIDE TO BASIC

SORTING SORTING

In this installment of MICRO-MAGIC, we will focus on the one thing that computers do best. That is sorting.
Imagine the preparation of a Telephone Directory. Apart from the need for listing in alphabetical order, there is also the need for the facility of adding new subscribers and delete others.
Can you imagine the frustration if each addition meant resorting the whole list. The subject of SORTING is dealt with in the next Studio Ad Lib. The program here is not a sorting program in the usual sense. The items are in fact not sorted at all. We use a POINTER that keeps track of where the items of data are stored and presents them for printing in alphabetical order. The way in which the pointer can be altered enables the addition of new items and the erasure of old ones to be made without having to swap items around.

--- ---

MICROSORT

```
20 PRINT#(A$)
POKE 31470,218 <RETURN>
10 GOTO100
30 RETURN
```

The TOKEN being POKEd into Line 20 is FRE.
FRE is the command that returns the remaining reserved string space.
The number is printed on the MENU. You can use it to change the CLEAR and DIMs in Line 100. The numbers are dependant on, not only the number of items, but the length of each item also.

```
40 'MICROSORT FROM MICRO MAGIC        GORDON BROWELL - JULY 1986
42 '*ALPHABETICAL SORTING USING       CHAINING BY USE OF POINTER.
44 '*WHILST PRINTING, LPRINTING       & SCROLLING  YOU CAN PAUSE
50 'BY PRESSING THE SPACE KEY.
60 '*GET BACK TO THE MENU USING
70 'RETURN.

100 CLEAR3000:CLS:MS=100:DIMA$(MS),P(MS):COLOR2,1
110 S=1:P(1)=1:A$(1)="ZZ"
120 CLS:PRINT@15,"[illegible]":PRINT@111,"[illegible]RITE":PRINTTAB(15)"[illegible]CROLL"
130 PRINTTAB(15)"[illegible]RASE":PRINTTAB(15)"[illegible]RINT"
140 PRINTTAB(15)"[illegible]APEFILE":PRINTTAB(15)"[illegible]OADFILE"
150 PRINTTAB(15)"[illegible]UN":PRINT:PRINTTAB(15)"[illegible]":PRINT
160 PRINTTAB(15)"MEMORY";:GOSUB20
170 PRINT:GOSUB470:GOTO400

180 CLS'"[illegible]
190 INPUT"WHICH ITEM";W$
200 IFA$(S)=W$THENSS=S:S=P(S):P(SS)=0:GOTO120
210 I=S
220 IFP(I)=1THENPRINT"[illegible]":FORT=1TO2000:NEXT:GOTO120
230 IFA$(P(I))=W$THEN250
240 I=P(I):GOTO220
250 P=P(I):P(I)=P(P(I)):P(P)=0:GOTO120
```

```
260 CLS:'"[illegible]
270 FORF=1TOMS
280 IFP(F)=0THEN310
290 NEXT
300 PRINT"[illegible]":FORT=1TO2000:NEXT:GOTO120
310 PRINT"[illegible]":INPUTW$
320 A$(F)=W$
330 IFA$(S)<>""THENIFA$(S)<W$THEN350
340 P(F)=S:S=F:GOTO120
350 I=S
360 IFP(P(I))=0THEN390
370 IFA$(P(I))>W$THEN390
380 I=P(I):GOTO360
390 P(F)=P(I):P(I)=F:GOTO120
400 CLS'"[illegible] OR [illegible]
410 I=S
420 IFP(F)=0THEN120
430 IFA$(I)="ZZ"THEN460
440 POKE30876,N:PRINTA$(I):SOUND0,5:GOSUB570
450 I=P(I):GOTO420
460 PRINT"[illegible]":GOTO770
```

The POKE in Line 440 changes PRINT to LPRINT. The value of N is picked up in Lines 510 and 520.

```
470 C$=INKEY$:C$=""
480 C$=INKEY$:IFC$=""THEN480
490 IFC$="E"THEN190
500 IFC$="W"THEN260
510 IFC$="S"THENN=0:GOTO400
520 IFC$="P"THENN=1:GOTO400
530 IFC$="R"THEN590
540 IFC$="T"THEN620'(TAPESAVE)
550 IFC$="L"THEN700'(RETRIEVE)
560 GOTO480

570 C$=INKEY$:C$=""
580 C$=INKEY$:IFC$<>""THEN580ELSERETURN
```

This INKEY$ routine only stops if the SPACE key is pressed.
It acts as a PAUSE while a list is being scrolled.

```
590 CLS:PRINT@99,"[illegible]OU HAVE SELECTED [illegible] WHICH"
600 PRINT"   WILL CLEAR ALL DATA. PLEASE     CONFIRM."
610 PRINT:INPUT"   [illegible]UN    [illegible]ENU";C$:IFC$="M"THEN120ELSERUN
620 CLS:PRINT"[illegible]":SOUND15,9:PRINT"[illegible]"
630 I=S'"[illegible]
640 IFP(F)=0THEN120
650 PRINT#"",S,I,P(I),A$(I):PRINTA$(I)
660 IFI=1THEN120
670 I=P(I)
680 GOTO640
700 CLS'"[illegible]
710 PRINT@40,"[illegible]":PRINT@72,"[illegible]"
720 I=S
730 INPUT#"",S,I,P(I),A$(I):PRINT@448,A$(I)
750 IFI=1THENF=1:PRINT@487,"[illegible]":GOTO120
```

This kind of listing is known as CHAINING.
We call it the MICRO MAGIC SORT.

OTHELLO

OTHELLO is a game played against the VeeZed. The computer starts, after a long pause, by printing an X so that any of your Os which are trapped between two Xs turn into Os.
Then it's your turn to try and change the VeeZed's Xs into Os by trapping them between two of your Os. The winner is the one with the most Os or Xs.

```
10 'OTHELLO
20 GOTO740
30 PRINT@394,"MY MOVE"
40 S=Z:T=X:H=0
50 FORA=2TO9:FORB=2TO9
60 IFA(A,B)<>46THEN210
70 Q=0
80 FORC=-1TO1:FORD=-1TO1
90 K=0:F=A:G=B
100 IFA(F+C,G+D)<>STHEN130
110 K=K+1:F=F+C:G=G+D
120 GOTO100
130 IFA(F+C,G+D)<>TTHEN150
140 Q=Q+K
150 NEXT:NEXT
160 IFA=2ORA=9ORB=2ORB=9THENQ=Q*2
170 IFA=3ORA=8ORB=3ORB=8THENQ=Q/2
180 IF(A=2ORA=9)AND(B=3ORB=8)THENQ=Q/2:GOTO190
185 IF(A=3OR A=8)AND(B=2ORB=9)THENQ=Q/2
190 IFQ<HOR(RND(0)<.3ANDQ=H)THEN210
200 H=Q:M=A:N=B
210 NEXT:NEXT
220 IFH=0ANDR=0THEN690
230 IFH=0THEN250
240 GOSUB580
250 GOSUB370
255 PRINT@394,"      ":'(6 SPACES)
260 PRINT@388,"ENTER YOUR MOVE";
270 INPUTR
275 PRINT@388,"                    "'(19 SPACES)
280 S=X:T=Z
290 IFR=0THEN350
300 IFR<11ORR>88THEN260
310 R=R+11
320 M=INT(R/10)
330 N=R-10*M
340 GOSUB580
350 GOSUB370
360 GOTO30
370 'PRINT BOARD * * * *
380 C=0:H=0
390 SOUNDRND(0)*30,1
395 SOUNDRND(0)*30,1
400 PRINT@32,"    1 2 3 4 5 6 7 8"'(4 SPACES BEFORE 1)
450 FORB=2TO9:PRINTB-1;" ";
460 FORD=2TO9
470 PRINTCHR$(A(B,D));" ";
480 IFA(B,D)=XTHENC=C+1
490 IFA(B,D)=ZTHENH=H+1
500 NEXT
510 PRINTB-1
520 NEXT
```

```
530 PRINT"    1 2 3 4 5 6 7 8"
540 PRINT
550 PRINT@451,"COMPUTER "C;"    HUMAN "H
570 RETURN
580 FORC=-1TO1:FORD=-1TO1
590 F=M:G=N
600 IFA(F+C,G+D)<>STHEN630
610 F=F+C:G=G+D
620 GOTO600
630 IFA(F+C,G+D)<>TTHEN670
640 A(F,G)=T
650 IFM=FANDN=GTHEN670
660 F=F-C:G=G-D:GOTO640
670 NEXT:NEXT
680 RETURN
690 GOSUB370
700 CLS:IFC>HTHENPRINT@230,"I'M THE CHAMP!"
710 CLS:IFH>CTHENPRINT@230,"YOU'RE THE CHAMP"
720 CLS:IFH=CTHENPRINT@230,"IT'S A DRAW"
730 END
740 CLS:PRINT@87,"OTHELLO"
750 X=88:Z=48
760 DIMA(10,10)
770 FORB=1TO10:FORC=1TO10
780 IFB<>1ANDC<>1ANDB<>10ANDC<>10THENA(B,C)=46
790 NEXT:NEXT
800 A(5,5)=X:A(6,6)=X
810 A(6,5)=Z:A(5,6)=Z
820 P=0
830 GOSUB370
840 GOTO30
```

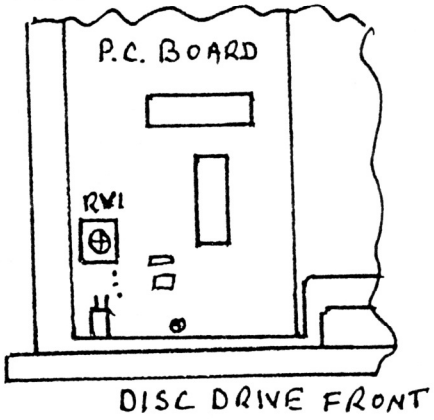
SETTING UP THE NEW DOS EPROM

By Pete Patterson

Some operators may have trouble with their Disc System after fitting the new DOS EPROM.The drive might continually run, or on power up, the cursor will not appear on the screen and you get a keyboard lockup.

The problem is that the Disc Drive pot RV1 needs adjustment. The adjustment is quite critical and with the Dicksmith drives, usually needs to be almost central of its travel.

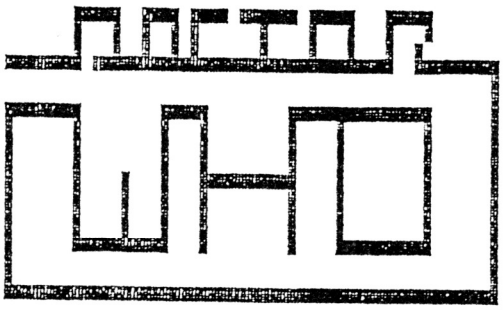
Take the cover off the drive (seven securing screws) and locate RV1. Turn it so it is central in its travel. Adjust it slightly anticlockwise or clockwise till you get the drive setting itself properly on power up, with the Computer screen showing READY and the cursor flashing. Do a DIR without a Disc in the drive and check that the message "NO DISK IN DRIVE" appears on the screen. The adjustment is critical and I found that I had to tweek RV1 a few times, till my Drives settled down. Now no problems. Happy computing with your enhanced DOS.

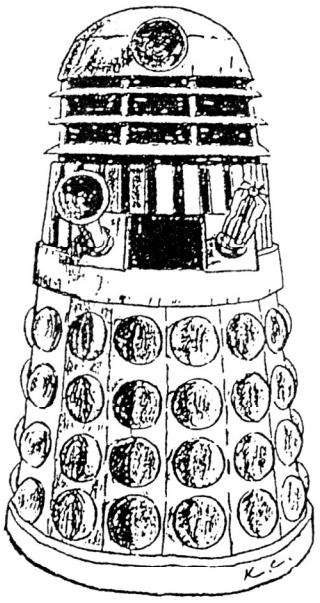


DR WHO

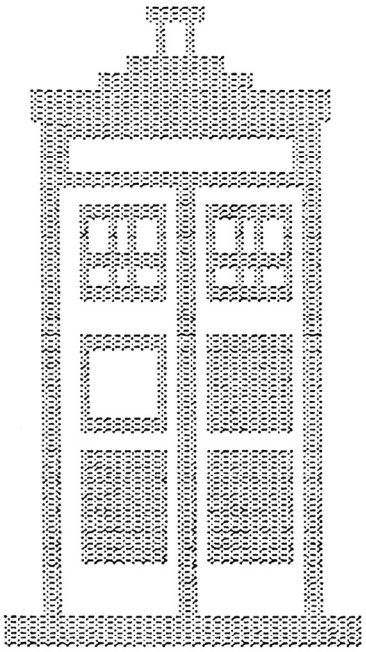
BY EDWIN PATTERSON

```
10 ' HIGH RES. DR WHO GRAPHICS BY EDWIN PATTERSON JULY 1990.
15 CLS
30 MODE(1)
35 'BORDERS
38 COLOR3,0
40 COLOR3,0:A=0:B=61:X=0:GOSUB1110:X=X+1:GOSUB1110'SIDE
50 A=2:X=126:GOSUB1110:X=X+1:GOSUB1110
60 A=0:B=127:Y=0:GOSUB1100:Y=Y+1:GOSUB1100
70 Y=62:GOSUB1100:Y=Y+1:GOSUB1100
98 'DAVISON SIGN
99 COLOR4,0
100 COLOR4,0:A=4:B=11:Y=9:GOSUB1100
102 A=6:B=9:X=11:GOSUB1110
104 A=11:B=15:Y=6:GOSUB1100
106 A=6:B=9:X=15:GOSUB1110
110 A=13:B=43:Y=9:GOSUB1100
111 A=6:B=9:X=18:GOSUB1110
112 A=18:B=21:Y=6 :GOSUB1100
113 A=6:B=9 :X=21:GOSUB1110
114 A=6:B=9 :X=30:GOSUB1110
115 A=35:B=39:Y=6 :GOSUB1100
116 A=6:B=9 :X=39:GOSUB1110
117 A=6:B=9:X=23:GOSUB1110
118 A=23:B=26:Y=6:GOSUB1100
119 A=6:B=9:X=35:GOSUB1110
120 A=46:B=54:Y=9:GOSUB1100
121 A=28:B=33:Y=6:GOSUB1100
122 A=8:B=8:X=46:GOSUB1110
123 A=43:B=47:Y=6:GOSUB1100
124 A=6:B=9:X=43:GOSUB1110
125 A=6:B=7:X=47:GOSUB1110
130 A=10:B=23:X=54:GOSUB1110
140 A=4:B=54:Y=23:GOSUB1100
150 A=12:B=23:X=4:GOSUB1110
160 A=4:B=11:Y=12:GOSUB1100
170 A=12:B=19:X=11:GOSUB1110
180 A=11:B=20:Y=20:GOSUB1100
190 A=16:B=20:X=16:GOSUB1110
200 A=12:B=20:X=20:GOSUB1110
210 A=20:B=24:Y=12:GOSUB1100
220 A=12:B=20:X=24:GOSUB1110
230 A=24:B=32:Y=16:GOSUB1100
240 A=12:B=20:X=33:GOSUB1110
250 A=33:B=47:Y=12:GOSUB1100
260 A=12:B=20:X=47:GOSUB1110
270 A=38:B=47:Y=20:GOSUB1100
280 A=12:B=20:X=38:GOSUB1110
398 'TARDIS
399 COLOR3,0
400 COLOR3,0:A=67:B=103:Y=46:GOSUB1100
410 A=67:B=103:Y=45:GOSUB1100
420 A=15:B=44:X=71:GOSUB1110
430 A=15:B=44:X=72:GOSUB1110
440 A=19:B=44:X=85:GOSUB1110
450 A=19:B=44:X=86:GOSUB1110
460 A=15:B=44:X=98:GOSUB1110
470 A=15:B=44:X=99:GOSUB1110
480 A=73:B=98:Y=15:GOSUB1100
490 A=73:B=98:Y=18:GOSUB1100
```

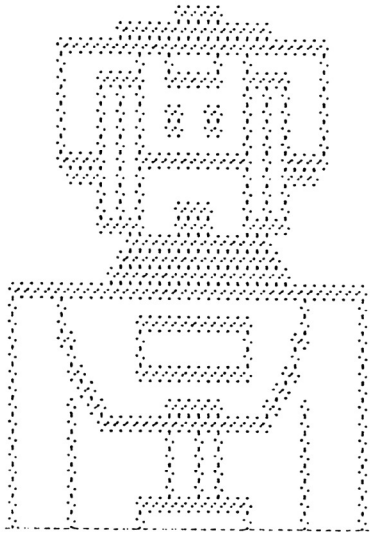




```
500 A=15:B=18:X=97:GOSUB1110
510 A=15:B=18:X=73:GOSUB1110
520 A=70:B=100:Y=13:GOSUB1100
530 A=70:B=100:Y=14:GOSUB1100
540 A=77:B=92:Y=12:GOSUB1100
550 A=80:B=89:Y=11:GOSUB1100
560 A=8:B=10:X=83:GOSUB1110
570 A=8:B=10:X=86:GOSUB1110
580 A=82:B=87:Y=8:GOSUB1100
590 A=20:B=25:X=75:GOSUB1110
600 A=20:B=25:X=78:GOSUB1110
610 A=20:B=25:X=80:GOSUB1110
620 A=20:B=25:X=83:GOSUB1110
630 A=20:B=25:X=88:GOSUB1110
640 A=20:B=25:X=91:GOSUB1110
650 A=20:B=25:X=93:GOSUB1110
660 A=20:B=25:X=96:GOSUB1110
670 A=75:B=83:Y=20:GOSUB1100
680 A=75:B=83:Y=23:GOSUB1100
690 A=75:B=83:Y=25:GOSUB1100
700 A=89:B=95:Y=20:GOSUB1100
710 A=89:B=95:Y=23:GOSUB1100
720 A=89:B=95:Y=25:GOSUB1100
730 A=28:B=33:X=75:GOSUB1110
740 A=28:B=33:X=83:GOSUB1110
750 A=75:B=83:Y=28:GOSUB1100
760 A=75:B=83:Y=33:GOSUB1100
770 A=75:B=83:Y=35:GOSUB1100
780 A=75:B=83:Y=36:GOSUB1100
790 A=75:B=83:Y=37:GOSUB1100
800 A=75:B=83:Y=38:GOSUB1100
810 A=75:B=83:Y=39:GOSUB1100
820 A=75:B=83:Y=40:GOSUB1100
830 A=75:B=83:Y=41:GOSUB1100
840 A=89:B=96:Y=35:GOSUB1100
850 A=89:B=96:Y=35:GOSUB1100
860 A=89:B=96:Y=36:GOSUB1100
870 A=89:B=96:Y=37:GOSUB1100
880 A=89:B=96:Y=38:GOSUB1100
890 A=89:B=96:Y=39:GOSUB1100
900 A=89:B=96:Y=40:GOSUB1100
910 A=89:B=96:Y=41:GOSUB1100
990 A=75:B=83:Y=40:GOSUB1100
992 A=35:B=41:X=88:GOSUB1110
1000 A=88:B=96:Y=28:GOSUB1100
1010 A=88:B=96:Y=29:GOSUB1100
1020 A=88:B=96:Y=30:GOSUB1100
1030 A=88:B=96:Y=31:GOSUB1100
1040 A=88:B=96:Y=32:GOSUB1100
1050 A=88:B=96:Y=33:GOSUB1100
1095 GOTO1120
1100 FORX=ATOB:SET(X,Y):NEXT:RETURN
1110 FORY=ATOB:SET(X,Y):NEXT:RETURN
1111 'CYBERMAN
1115 COLOR2,0
1120 COLOR2,0:A=47:B=61:X=10:GOSUB1110
1130 A=47:B=61:X=46:GOSUB1110
1140 A=10:B=46:Y=47:GOSUB1100
1150 A=20:B=38:Y=46:GOSUB1100
1160 A=21:B=37:Y=45:GOSUB1100
1170 A=22:B=36:Y=44:GOSUB1100
1180 A=23:B=34:Y=60:GOSUB1100
1190 A=60:B=61:X=23:GOSUB1110
1200 A=60:B=61:X=34:GOSUB1110
1210 A=20:B=36:Y=55:GOSUB1100
```



```
1220 A=54:B=59:X=31:GOSUB1110
1230 A=54:B=59:X=29:GOSUB1110
1240 A=54:B=59:X=26:GOSUB1110
1260 A=33:B=43:X=23:GOSUB1110
1270 A=33:B=43:X=34:GOSUB1110
1280 A=34:B=43:X=19:GOSUB1110
1290 A=34:B=43:X=21:GOSUB1110
1300 A=34:B=43:X=36:GOSUB1110
1310 A=34:B=43:X=38:GOSUB1110
1320 A=19:B=23:Y=43:GOSUB1100
1330 A=34:B=38:Y=43:GOSUB1100
1350 A=19:B=22:Y=34:GOSUB1100
1355 A=34:B=38:Y=34:GOSUB1100
1360 A=32:B=39:X=15:GOSUB1110
1370 A=32:B=39:X=42:GOSUB1110
1380 A=15:B=18:Y=39:GOSUB1100
1390 A=16:B=18:Y=40:GOSUB1100
1400 A=39:B=42:Y=39:GOSUB1100
1410 A=39:B=41:Y=40:GOSUB1100
1420 A=21:B=36:Y=31:GOSUB1100
1430 A=15:B=42:Y=32:GOSUB1100
1440 A=27:B=31:Y=30:GOSUB1100
1450 A=36:B=37:X=26:GOSUB1110:X=X+1:GOSUB1110
1455 A=36:B=37:X=30:GOSUB1110:X=X+1:GOSUB1110
1460 A=27:B=30:Y=42:GOSUB1100:Y=Y+1:GOSUB1100
1470 A=26:B=31:Y=34:GOSUB1100
1480 A=26:B=26:Y=33:GOSUB1100
1490 A=31:B=31:Y=33:GOSUB1100
1500 A=23:B=34:Y=49:GOSUB1100
1510 A=23:B=34:Y=52:GOSUB1100
1520 A=49:B=52:X=34:GOSUB1110
1530 A=49:B=52:X=23:GOSUB1110
1540 A=24:B=33:Y=39:GOSUB1100
1550 A=26:B=30:Y=54:GOSUB1100
1560 A=54:B=61:X=16:GOSUB1110
1570 A=54:B=61:X=40:GOSUB1110
1580 A=48:B=50:X=15:GOSUB1110
1590 A=48:B=50:X=40:GOSUB1110
1600 A=50:B=52:X=16:GOSUB1110
1610 A=50:B=52;X=39:GOSUB1110
1620 A=52:B=53:X=17:GOSUB1110
1630 A=52:B=53:X=38:GOSUB1110
1640 A=53:B=54:X=18:GOSUB1110
1650 A=53:B=54:X=37:GOSUB1110
1660 A=54:B=55:X=19:GOSUB1110
1670 A=54:B=55:X=36:GOSUB1110
1675 REM
1680 REM
9999 'THEME
10000 SOUND6,4;6,1;6,5;6,4;6,1;6,5;6,4
10010 SOUND 6,1;6,5;9 ,4;9,1;9,5
10020 SOUND6,4;6,1;6,5;6,4;6,1;6,5;6,4
10040 SOUND 6,1;6,5;9 ,6
10050 SOUND14,5;13,7;0,1;14,6;13,7;0,1;13,4;9,4;6,6;9,5;6,2;3,3
10060 SOUND0,1;9,4;6,4;2,6;0,1;9,4;4,6;0,1;14,3;13,8
10690 'DEMATERIALISATION
10700 A=63:B=106:Y=8:GOSUB20000
10710 FORT=1TO20
10720 Y=Y+2:GOSUB20000
10730 NEXTT
10740 A=63:B=106:Y=9:GOSUB20000
10750 FORT=1TO20
10760 Y=Y+2:GOSUB20000
10770 NEXTT
10950 GOTO10950
20000 FORX=ATOB:RESET(X,Y):NEXT:RETURN
```



TUNE HOLDER

BY PETER HILL

This program was put together on a couple of wet sunday afternoons.
It is designed to hold those super little sound routines and tunes that you hear and want to store for later use.

It is then just a matter of running this program, selecting the tune and llist it if it's the one you want.
I think you should be able to follow this program and store any other tunes you may wish.

```
0 CLS:PRINT:PRINT
2 PRINT"     ======================"
4 PRINT"     =    TUNE HOLDER     ="
6 PRINT"     =   BY PETER HILL    ="
8 PRINT"     =  V.1 ... MAY 1990  ="
10 PRINT"     =  V.2 ... AUG 1990  ="
12 PRINT"     =                    ="
13 PRINT"     ======================"
15 FORW=0TO3000:NEXT:GOSUB10000
17 CLS
19 DIM P(44),L(44)
20 PRINT:PRINT@10," MENU"
25 PRINT" PLAY TUNE        LLIST TUNE":PRINT
30 PRINT"   1                   A"
32 PRINT"   2                   B"
34 PRINT"   3                   C"
36 PRINT"   4                   D"
38 PRINT"   5                   E"
40 PRINT"   6                   F"
42 PRINT"   7                   G"
44 PRINT"   8                   H"
46 PRINT"   9                   I"
90 A$=INKEY$:A$=INKEY$
100 IFA$="1"PRINT@99,"▓":GOSUB1000:PRINT@99,"1"
105 IFA$="A"LLIST1000-1020
110 IFA$="2"PRINT@131,"▓":GOSUB2000:PRINT@131,"2"
115 IFA$="B"LLIST2000-2088
120 IFA$="3"PRINT@163,"▓":GOSUB3000:PRINT@163,"3"
125 IFA$="C"LLIST3000-3010
130 IFA$="4"PRINT@195,"▓":GOSUB4000:PRINT@195,"4"
135 IFA$="D"LLIST4000-4070
140 IFA$="5"PRINT@227,"▓":GOSUB5000:PRINT@227,"5"
145 IFA$="E"LLIST5000-5010
150 IFA$="6"PRINT@259,"▓":GOSUB6000:PRINT@259,"6"
155 IFA$="F"LLIST6000-6012
160 IFA$="7"PRINT@291,"▓":GOSUB7000:PRINT@291,"7"
165 IFA$="G"LLIST7000-7015
170 IFA$="8"PRINT@323,"▓":GOSUB8000:PRINT@323,"8"
175 IFA$="H"LLIST8000-8020
180 IFA$="9"PRINT@355,"▓":GOSUB9000:PRINT@355,"9"
185 IFA$="I"LLIST9000-9055
900 GOTO90
999 REM>>>>>>>>>>>>>>>>>>>>>>>>
1000 REM TUNE 1
1010 SOUND4,4;4,2;9,6;0,2;4,4;9,2;13,6;0,2;4,4;4,2
1020 SOUND9,5;9,4;9,2;13,5;16,4;13,2;4,5;4,4;4,2;9,7;0,8
1030 RETURN
1090 REM>>>>>>>>>>>>>>>>>>>>>>>>
2000 REM TUNE 2
2005 POKE30777,1
2010 RESTORE:FORA=1TO42:READP(A),L(A):NEXT
2020 FORA=1TO2:FORB=1TO20:SOUNDP(B),L(B)
```

```
2030 NEXT:NEXT
2040 FORB=21TO42:SOUNDP(B),L(B)
2050 NEXT
2060 FORB=1TO18:SOUNDP(B),L(B)
2070 NEXT:SOUND3,4;4,9
2080 SOUND0,9;0,9;0,9:RETURN
2082 DATA8,7,11,6,19,4,20,9,15,4,18,4,16,4,11,6,10,4,9,9
2084 DATA9,7,11,6,13,4,15,9,13,4,11,4,10,4,11,6,21,4,20,9
2086 DATA13,7,16,7,16,6,16,4,18,4,16,4,15,4,16,6,13,4,11,7,11,7
2088 DATA11,7,14,7,14,6,13,4,14,4,13,4,14,4,15,7,16,7,18,7,18,7
2090 REM>>>>>>>>>>>>>>>>>>>>>>>
3000 REM TUNE 3
3005 SOUND9,3;4,2;9,1;11,3;4,2;11,1;13,6
3010 SOUND9,3;4,2;9,1;11,3;4,2;11,1;13,6
3020 RETURN
3090 REM>>>>>>>>>>>>>>>>>>>>>>>
4000 REM TUNE 4
4010 FORA=1TO500:NEXT
4020 RESTORE:FORA=1TO42:READB,C:NEXT
4030 FORA=1TO40:READP(A),L(A):NEXT
4040 FORA=1TO40:SOUNDP(A),L(A):NEXT:RETURN
4050 DATA8,3,9,1,11,2,16,6,6,3,8,1,9,7
4055 DATA11,3,13,1,15,2,21,6,13,3,15,1,16,2,11,2,18,2,11,2
4060 DATA20,4,8,3,9,1,11,2,16,6,18,3,20,1,21,7,11,3,11,1
4065 DATA20,4,18,3,11,1,20,4,18,3,11,1,20,4,18,3,11,1,21,4,20,3
4070 DATA18,1,16,6
4090 REM>>>>>>>>>>>>>>>>>>>>>>>
5000 REM TUNE 5
5010 SOUND 16,3;11,2;11,1;13,3;11,3;0,2;15,4;16,4
5050 RETURN
5090 REM>>>>>>>>>>>>>>>>>>>>>>>
6000 REM TUNE 6
6010 FORN=1TO4:SOUND23,1:NEXT
6011 FORN=1TO4:SOUND25,1:NEXT
6012 SOUND23,1;23,1;27,1;27,1;28,4
6020 RETURN
6090 REM>>>>>>>>>>>>>>>>>>>>>>>
7000 REM TUNE 7
7010 FORN=1TO4:SOUND28,1;25,1:NEXT
7015 SOUND16,1;16,1;20,1;23,1;18,1;20,1;23,1;25,6
7020 RETURN
7090 REM>>>>>>>>>>>>>>>>>>>>>>>
8000 REM TUNE 8
8010 SOUND19,1;19,1;19,2;19,1;19,1;19,2;19,1;19,1;24,2;26,2
8020 SOUND28,2;24,1;28,1;31,5;29,1;26,1;24,2;28,2;24,2
8030 RETURN
8090 REM>>>>>>>>>>>>>>>>>>>>>>>
9000 REM TUNE 9
9010 SOUND11,1;11,1;11,1;7,1;12,1;12,1;12,1;11,1;19,1;19,1;19,1
9051 SOUND16,4
9055 SOUND19,4;16,4;23,6
9060 RETURN
9090 REM>>>>>>>>>>>>>>>>>>>>>>>
10000 CLS:REM INTRO
10005 PRINT"           [illegible]"
10010 PRINT:PRINT"THIS PROGRAM IS A SMALL UTILITY"
10020 PRINT"WHICH IS DESIGNED TO HOLD MUSIC ROUTINES";
10025 PRINT" WHICH YOU MAY USE AT A LATER DATE IN YOUR GAMES";
10030 PRINT" OR     PROGRAMS."
10035 PRINT:PRINT"THERE IS ALSO THE OPTION TO"
10040 PRINT"LLIST THE TUNE FOR TRANSFER TO  YOUR PROGRAMS"
10045 PRINT"AFTER LLISTING YOU MUST TYPE     'RUN' TO RESTART"
10050 PRINT@448,"        [illegible] [R] [illegible]"
10052 PRINT@448,"        [illegible] [R] [illegible]"
10053 R$=INKEY$:R$=INKEY$
10055 IFR$<>"R"GOTO10050
10060 RETURN
```

Each article in this series is a gentle introduction to some topic in the computing field. It is written for the beginner, so may appear very simple to the rest of you. If you find it too easy, and so not worth reading, congratulations — you are a beginner no more. Each issue will deal with a different topic, of general interest. Occasionally, material may seem to repeat what has already appeared in "Bits and Bytes". But remember, new readers are coming along all the time.

Avoiding trouble with disks

By Gordon Findlay

The trouble with disks is that they are fragile! Even with very careful and conscientious handling, it is easy to damage a disk so that it cannot be read – thereby losing the information on it forever.

Lost data can be merely a nuisance, or, in the business situation, almost mean bankruptcy if it includes, for example, all the accounts! No matter what the situation, damage to a disk invariably means loss of time – and you know what they say time is!

The most common sources of damage to disks are avoidable. The tolerances involved in reading and writing to a floppy or hard disk are so small the smallest particle of dust or oil from a fingerprint can make a disk unreadable. Here are some things to avoid:

• Dust is dangerous! Don't leave disks exposed to airborne dust. A good rule is that a disk should be in its drive or its envelope. A disk should not be left on a desk to collect dust from the air, or worse, from the desk surface. Remember that in a single-sided drive, the side that is recorded is the bottom one – not the one with the label.

• Smoke is as bad as dust. Smoking while using a computer is definitely not recommended. Of course, in the good old days (seven years ago) when computers were mainframes and had special rooms, a person smoking wouldn't get near the machine.

• Don't touch the disk surface itself! I know your fingers are scrupulously clean, but even clean fingers leave traces of oil.

• Bending a disk is likely to flake off some of the oxide coating – bad news. Pressure on disks caused by squeezing lots into a box, placing heavy objects like books on them, using paper clips, rubber bands or other rough handling will squeeze the edges of the jacket together and prevent the disk from turning. I've seen this several times, and occasionally managed to use surgery on the jacket to allow the disk to be copied onto a new one. But more often than not, no recovery has been possible.

• Everyone knows not to write on the label once it's on the disk but sometimes we have to. Use a felt-pen, carefully. Don't stick a label on top of an old one – carefully peel the old one off first. Don't use a rubber on a disk label – think of the dust!

• Magnetic fields erase disks, of course. There are magnetic fields of around telephones, monitor screens, loudspeakers and magnetic memo holders, among other things. At least one unfortunate acquaintance has found a disk with a memo attached to a filing cabinet by a large magnetic clip. The disk didn't look damaged!

• Sending disks through the mail can be successful, but packing needs to be secure. Use a thick piece of cardboard on each side of the disk and slightly larger to avoid bending. Put the whole "sandwich" in a posting bag with bubble padding to avoid pressure damage. There are also commercially made disk mailers.

• Disk head cleaning kits are commonly sold. There are several types. Some have a dry sheet of cleaning material, others impregnate the material with a liquid before use. Some drive manufacturers do not recommend the kits, others recommend cautious use. Too frequent use can certainly contribute to rapid head wear. If you do use one, stick to the instructions, and do not over-use.

• There is also controversy over using the back side of a single-sided disk. There are good reasons for not using the reverse, but on the other hand lots of people do! Caution is recommended. Dysan Corporation, one of the largest disk manufacturers in the world, does not make a "flippy" disk, and warns strongly against using the reverse of a single-sided disk. Perhaps we can only advise caution.

Even with the greatest care, accidents do happen. One of the worst losses I have had was caused by a child unexpectedly sneezing! The best precaution is to keep a back-up copy. At a suitable interval, make a copy of your work. What is a suitable interval? That depends on your application. Certainly, in a business situation, it should be short enough to allow reconstruction of an up-to-date set of files system from the latest back-ups without great delay, by reprocessing just the work since the disk was last backed-up.

In word processing, save the file when you've done more typing than you want to repeat, and back-up frequently. In most operating systems, there are commands to allow copying of only the files on a disk which have been changed since the last back-up. Major software packages should have automatic or semi-automatic back-up provisions.

With care, disk storage is quick and reliable. But in a medium in which a piece of track just 0.3mm wide and 0.76mm long, can store 130 bits, and the loss of just one bit can render the whole disk useless, care is obligatory!

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